

CLAIMS

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- 5 1. A method of transmitting information in a radio communication system comprising at least one transmitter and at least one receiver, the method comprising the steps of:
- 10 • Transmitting first information in a first channel from the at least one transmitter to the at least one receiver, using in the transmitting a modulation and/or coding scheme and adapting the modulation and/or coding scheme to give a secure communication of the first information, and
- 15 • Transmitting second information in a second channel from the at least one transmitter to the at least one receiver and setting the power used for transmitting in the second channel to give a secure communication of the second information, **characterized** in that in the step of transmitting, the first information, the choice of the modulation and/or coding scheme is controlled by the level of the power at each instant set for transmitting in the
- 20 second channel.
- 25 2. Method according to claim 1, **characterized** in that the second channel is transmitted from the same transmitter as the first channel.
- 30 3. Method according to claim 1, **characterized** in that the second channel is transmitted from one of a plurality of transmitters, comprising the transmitter that transmits the first channel.
- 35 4. Method according to any of claim 1-3, **characterized** in that the first physical channel is shared between several users and in that each user has a unique second channel wherein the modulation and coding scheme used by the first channel is determined by the instantaneous transmitted power of the

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second channel, the user of the second channel being currently served by the first channel.

- 5 5. Method according to any of claim 1-4, **characterized** in that the transmitter is a base station and the receiver is a mobile station.
- 10 6. Method according to any of claim 1-5, **characterized** in that the first channel is a shared downlink channel and the second channel is a dedicated physical channel.
- 15 7. Method according to claim 6, **characterized** in that the modulation and/or coding scheme used on the downlink shared channel when transmitting to a specific receiver is controlled by the power control commands transmitted by the receiver in the reverse link.
- 20 8. A method according to claim 7, **characterized** in that the power control commands are transmitted in combination with other information.
- 25 9. A method according to any of claim 6-8, **characterized** in that the power of the dedicated physical channel is mapped into a suitable modulation and coding scheme for the downlink shared channel.
- 30 10. A method according to claim 9, **characterized** in that a varying modulation and coding scheme is used on the downlink shared channel.
- 35 11. A method according to claim 9, **characterized** in that the mapping is static.
12. A method according to claim 9, **characterized** in that the mapping is dynamic.

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13. A method according to claim 11, **characterized** in that a predefined table is use for mapping the power level to the modulation and coding scheme.
- 5 14. A method according to claim 12, **characterized** in that the mapping is changed as a function of some retransmission requests for data blocks being retransmitted over the shared channel.
- 10 15. A method according to claim 12, wherein at least two base stations are transmitting at the same time to the same mobile station, **characterized** in that that the power of the DPCH is multiplied with a constant k , $k \geq 1$, said constant being used for determining the modulation and coding scheme of the DSCH, both channels DPCH and DSCH transmitting from the same base station.
- 15 16. A method of modifying the transmission parameters in a radio communication system comprising at least one transmitter, at least one receiver, a first channel for transmitting first information from the at least one transmitter to the at least one receiver, and a second channel for transmitting second information from the at least one transmitter to the at least one receiver, the method comprising the steps of
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- Setting the power used for transmitting in the second channel; and
 - Adapting a modulation and/or coding scheme used in transmitting in the first channel, **characterized** in that in
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- 30 the step of adapting, the choice of the modulation and/or coding scheme is controlled by the level of the power at each instant set for transmitting in the second channel.
- 35 17. Method according to claim 16, wherein at least two transmitters are transmitting at the same time,

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18. A system radio communication system comprising at least one
5 transmitter, at least one receiver, a first channel for
transmitting first information from at least one
transmitter to the at least one receiver, and a second
channel for transmitting second information from the at
least one transmitter to the at least one receiver, the
10 system comprising:
- means for setting the power used for transmitting in the
second channel, and
 - means for adapting a modulation and/or coding scheme used in
transmitting in the first channel, **characterized** in
15 comprising
 - means for controlling the choice of the modulation and/or
coding scheme by means of the level of the power at each
instant set for transmitting in the second channel.
- 20 19. A computer program product directly loadable into the
internal memory of a digital computer comprising software
portions for performing the steps of claim 1-17, when said
product is run on a computer.

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